



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,094	10/31/2003	Hideki Saga	NIT-400	1456

7590 02/09/2006  
Mattingly, Stanger & Malur, P.C.  
Suite 370  
1800 Diagonal Road  
Alexandria, VA 22314

EXAMINER

FIGUEROA, NATALIA

ART UNIT	PAPER NUMBER
----------	--------------

2651

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/697,094	SAGA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Natalia Figueroa	2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on amendment (23 November 2005).
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6, 7, 9 and 10 is/are rejected.
- 7) ☒ Claim(s) 3-5 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-2, 6-7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akiyama et al (USPN 6,795,380), hereinafter Akiyama in view of Matsumoto (JP 2001-255254).

RE claim 1, Akiyama discloses a recording head for generating an optical near field and thermo-magnetically recording information on a recording medium (abstract and col. 4, lines 43-46 and fig.2 and col. 7, lines 14-16), comprising a light source; and a first magnetic pole for applying a magnetic field to the recording medium (abstract and col. 4, line 53-col. 5, line 6 and col. 7, lines 33-37).

Akiyama fails to explicitly teach a diffuser that generates an optical near field in the vicinity of the recording medium when light is radiated from the light source, wherein the diffuser is in contact with the first magnetic pole and a face from which light from the light source irradiates is substantially perpendicular to the recording medium. However, Matsumoto discloses such diffuser and configuration in (or metal scatterer, abstract, fig. 1 and [0007-0008], [0011] and [0022-0023]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to improve the apparatus as disclosed by Akiyama with the above teachings from Matsumoto to include a diffuser that would heighten light efficiency hence improving scanning and data storage.

RE claim 2, the combination of Akiyama and Matsumoto is relied upon for the same reasons of rejection as stated above. Matsumoto further discloses that the diffuser is arranged between a direction in which light from the light source is outgoing and the first magnetic pole with the back of the face which the light irradiates in contact with the first magnetic pole (or metal scatterer, abstract, fig. 1 and [0007-0008], [0011] and [0022-0023]).

RE claim 6, the combination of Akiyama and Matsumoto is relied upon for the same reasons of rejection as stated above. Matsumoto further discloses the diffuser is substantially an isosceles triangle (figs. 2-3 and disclosure thereof); and the diffuser is installed with its vertex between two sides equal in the length opposite to the recording medium (fig. 2 and disclosure thereof).

Art Unit: 2651

RE claim 7, the combination of Akiyama and Matsumoto is relied upon for the same reasons of rejection as stated above. Matsumoto further discloses that the diffuser is made of any of Au, Pd, Pt, Rh and Ir or an alloy of these ([0022]).

RE claim 9, Akiyama discloses an information recording/reading apparatus for generating an optical near field and thermo-magnetically recording/reading information on a recording medium (abstract and col. 4, lines 43-46 and fig.2 and col. 7, lines 14-16), comprising a light source; and a magnetic pole for applying a magnetic field to the recording medium (abstract and col. 4, line 53-col. 5, line 6 and col. 7, lines 33-37).

Akiyama fails to explicitly teach a diffuser that generates an optical near field when the diffuser receives light from the light source, wherein the diffuser is in contact with the magnetic pole and a face from which light from the light source irradiates is substantially perpendicular to the recording medium; and magnetic flux detection means that detects a magnetic flux of the recording medium.

However, Matsumoto discloses such diffuser and configuration in (or metal scatterer, abstract, fig. 1 and [0007-0008], [0011] and [0022-0023]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to improve the apparatus as disclosed by Akiyama with the above teachings from Matsumoto to include a diffuser that would heighten light efficiency hence improving scanning and data storage.

RE claim 10, the combination of Akiyama and Matsumoto is relied upon for the same reasons of rejection as stated above. Matsumoto further discloses scanning means so that the diffuser and the magnetic flux detection means scan a desired position of the recording medium (abstract and [007-008] and [0011]).

***Allowable Subject Matter***

4. Claims 3-5 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

5. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalia Figueroa whose telephone number is (571) 272-7554. The examiner can normally be reached on Monday - Thursday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2651

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
NFM

  
DAVID HUDSPETH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600